

CLAIMS:

1. A low-pressure gas discharge lamp, which is equipped with a gas discharge vessel containing an inert gas filling as the buffer gas, and with electrodes and with means for generating and maintaining a low-pressure gas discharge, characterized in that it contains at least one tin halide.

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2. A low-pressure gas discharge lamp as claimed in claim 1, characterized in that it contains 2×10^{-11} to 2×10^{-9} mole/cm³ of tin halides in the gas phase.

3. A low-pressure gas discharge lamp as claimed in claims 1 and 2, characterized in that it contains approximately 2×10^{-10} mole/cm³ of tin halides in the gas phase, corresponding to an operational pressure of approximately 10 µbar.

4. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 3, characterized in that a wall temperature of $T^* \pm 50$ K is set, wherein T^* is 220° C for tin chloride, 230° C for tin bromide, and 275° C for tin iodide.

5. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 4, characterized in that the gas pressure of the inert gas lies in the range between 1 and 5 mbar, and is preferably around 2 mbar.

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6. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 5, characterized in that the UV radiation emitted as a result of the discharge is converted into visible radiation by means of suitable fluorescent materials.

25 7. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 6, characterized in that the walls of the discharge device comprise quartz, Al₂O₃, yttrium-aluminum garnet, or similar known materials.

8. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 7, characterized in that the discharge can be excited inductively or capacitively with external electrodes and a high-frequency alternating field.

5 9. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 8, characterized in that the internal electrodes comprise conductive materials (for example tungsten or rhenium).

10. 10. A low-pressure gas discharge lamp as claimed in any one of claims 1 to 9, characterized in that it contains internal electrodes which are additionally provided with a material of low work function.